

January 18, 2024

**FINANCIAL ASSISTANCE CENTER
FINDING OF NO SIGNIFICANT IMPACT/ENVIRONMENTAL ASSESSMENT**

TO: ALL INTERESTED GOVERNMENT AGENCIES AND PUBLIC GROUPS

In accordance with procedures for environmental review found at 10 CSR 20-4.050, the Department has performed our review on the proposed action below:

PROJECT INFORMATION:

Project Identification: Middle Big Creek Phase 2 – Interceptor

Applicant: Little Blue Valley Sewer District

Project No.: C295439-05

City: Greenwood/Pleasant Hill

County: Jackson/Cass

State: Missouri

Total Project Amount: \$23,140,400

Total Clean Water State Revolving Fund Eligible Costs: \$23,140,400

- Potential Loan: \$23,140,400
- Potential Grant: \$ 0

COMMUNITY DESCRIPTION:

Location: The interceptor extension is generally in the area between Greenwood and Pleasant Hill, between State Route BB on the west and State Highway 7 on the east.

Population, Present and Projected, and Design Year: The population of the Middle Big Creek (MBC) service area of the Little Blue Valley Sewer District (LBVSD) was estimated to be 34,735 in 2020. The majority of the flow through the new interceptor extension will come from the area that is currently served by the Greenwood Pump Station. An estimate of the existing population in the area flowing to the proposed interceptor, using established values for population per acre based on land use, is 7,781.

Current Methods of Waste Treatment: The wastewater through the interceptor main to be constructed for this project will be directed to the LBVSD MBC Wastewater Treatment Facility (WWTF) in Pleasant Hill, permit number MO-0058629. The current facility has a design flow of 2.25 million gallons per day (MGD). Wastewater treatment processes at the current facility



include an influent lift station, excess flow holding basin, manual bar screen, mechanical fine screen, vortex grit chamber, aeration basin, two final clarifiers, tertiary filters, UV disinfection and effluent re-aeration, with discharge to a tributary to Big Creek. There are two sludge storage basins and sludge is hauled by a contract hauler to the LBVSD Atherton Wastewater Treatment Plant (WWTP) (MO-0101087) for final disposal. In a separate project, the MBC WWTF will be expanded to a design flow of 7.5 MGD and peak wet weather flow of 22.5 MGD. In the meantime, there are operational options to store peak flows in the excess flow holding basin or redirect flow from the Greenwood or Raintree areas to the LBVSD Atherton WWTP.

PROJECT DESCRIPTION:

Purpose and Need: The existing Greenwood Pump Station firm capacity is 6.8 MGD, with no available peak flow storage. The Big Creek watershed peak wet weather flow is estimated to increase beyond the pump station's capacity in less than 5 years. The recommended 36-inch Big Creek Interceptor Extension has capacity of 14.5 MGD to convey predicted flow over a 20-year period.

Description of Project: The 36-inch Big Creek Interceptor Extension will have a flow capacity of 14.5 MGD and provide gravity conveyance of the Big Creek watershed to the MBC WWTF. The bottom of pipe elevation will be 25-30 feet below grade, and groundwater is encountered on average at a depth of 15 feet. To accommodate depth and groundwater, polyvinyl chloride (PVC) or centrifugally casted, fiberglass-reinforced polymer mortar (FRP, also known as HOBAS) pipe material will be utilized. The project will include all necessary appurtenances to complete the project.

Design Factors: The gravity interceptor will include approximately 17,100 linear feet of 36-inch PVC or FRP pipe and 24 6-foot diameter manholes, with a flow capacity of 14.5 MGD. The design will comply with the requirements in 10 CSR 20-8.

ALTERNATIVES CONSIDERED:

The future peak hourly flow rate at the Greenwood Pump Station is estimated to exceed the capacity of the pump station in less than 5 years. An overflow basin at this location would help extend the useful life of the pump station but land at this site is very limited. Due to limited land availability, construction of a gravity sewer to connect the existing 36-inch MBC sewer to the 24-inch sewer upstream would provide the capacity required for the next 20 years. Three alignment alternatives were evaluated. Alignment 1 generally follows the active railroad. Alignment 2 follows the abandoned railroad, and Alignment 3 follows the shallow topography to minimize depth of excavations. The opinion of probable construction cost for Alignments 1, 2, and 3 were \$25.9 million, \$19.6 million, and \$19.2 million, respectively. The operation and maintenance costs will be essentially the same for the three alignments. Alignment 3, the shallower pipe, was recommended to minimize costs and risk of deep tunnel construction.

Different pipe materials were also evaluated for technical and cost considerations. The pipe materials evaluated included PVC, high-density polyethylene (HDPE), reinforced concrete pipe (RCP), FRP, and Pre-stressed Concrete Pressure Pipe (PCCP). The factors considered in the selection of pipe material include pipe burial depth, cost per linear foot, diameter size limitations, soil material compatibility, weight, and bedding and trenching requirements. The pipe material recommendation was that PVC is suitable in excavations less than 35 feet deep, while deeper excavations will require the use of FRP. Based on market availability and cost at the time of construction, the decision can also be made to use FRP in all open-cut installations, regardless of the depth of bury.

REASONS FOR SELECTION OF PROPOSED ALTERNATIVE:

The Big Creek Interceptor Extension alignment was chosen to decrease risk and costs associated with deep pipe installation construction methods. The alignment follows the alignment of Big Creek where topography is shallower and the probability of rock excavation is less. It is also the shortest length, which helps to provide adequate slope of the pipe. Alternative No. 3 was determined to be the most cost effective, practical, and feasible.

ENVIRONMENTAL IMPACT SUMMARY:

1. Primary:

- a. Construction: Temporary surface disruption, blowing dust, and noise from vehicles and equipment will occur during construction, but LBVSD expects these impacts to be minor and temporary in nature.
- b. Environmental: At the Greenwood Pump Station, peak hourly flows have been predicted to exceed the existing capacity in less than five years. By constructing the new gravity interceptor, sufficient capacity is predicted for more than 20 years, for reliable conveyance of wastewater to the MBC WWTF.
- c. Financial: Current billing structure is based on number of connections. A planned project includes the addition of customer sewer meters, which allows for transitioning to flow-based billing. Prior to the transition to flow-based billing, MBC will charge the below projected rates on a per connection basis to its customers (municipalities and sewer districts):

2017 – 2020: \$32.50 per connection

FY 2021: \$37.00 per connection

FY 2022: \$38.00 per connection

FY 2023: \$41.00 per connection

FY 2024: \$44.00 per connection

The Middle Big Creek customers (municipalities and sewer districts) may incorporate additional costs into their rates in processes that are outside of MBC control.

2. Secondary:

- a. Population Impacts: LBVSD anticipates no significant change in population trends resulting from this project. No significant relocation of people or structures are expected to result from this project. This project will not serve any new areas.
- b. Land Use and Trends: LBVSD anticipates no significant change in land use trends resulting from this project. LBVSD expects no development of sensitive areas.
- c. Environmental: LBVSD does not expect secondary environmental impacts caused by this project to be significant.

3. Mitigation Measures Necessary to Eliminate Adverse Environmental Effects: Best Management Practices and good engineering practices should minimize noise, blowing dust, and erosion normally associated with construction. Restoration of disturbed areas will be promptly accomplished. Any debris, such as construction waste, trees, or brush, will be disposed of properly.

Some tree clearing will be required along the Big Creek Interceptor Extension alignment. To minimize impact to bat species in the region, tree clearing at these locations will be limited to between November 1st and March 31st per the request of the U.S. Fish and Wildlife Service.

The Missouri Department of Conservation letter dated October 4, 2021, included an attachment with Management Recommendations for Construction and Development Projects Affecting Missouri Rivers and Streams. In the Natural Heritage Review Report also provided with this letter, Bald Eagles, Indiana Bats, and Northern Long-eared Bats were identified as potential protected or federally and/or state ranked endangered species, based on the historic range of species. For the Bald Eagles, direction was provided that work managers should be alert for nesting areas within 1,500 meters of project activities and that federal guidelines are to be followed if eagle nests are seen. Information in the EID indicated that “No active bald eagle nest were observed within the vicinity of the Project during the habitat assessment field surveys that occurred in conjunction with the wetland field surveys that occurred on November 11, 2021, December 7, 2021, and February 23, 2022.”

A Cultural Resource Report was prepared by Burns & McDonnell and included in Attachment 4 of the Environmental Information Document submitted June 8, 2023. This report includes procedures to be followed if, during construction, there are any unanticipated discoveries of cultural resources, including archeological sites and possible human remains.

LBVSD will be required to comply with the terms and conditions of the U.S. Army Corps of Engineer (USACE) Nationwide Permit 58, Utility Line Activities for Water and Other Substances, based on the letter from the USACE dated June 6, 2023. A compliance certification is to be submitted to the Kansas City District of the USACE within 30 days of completing the authorized activity.

4. Irreversible and Irretrievable Commitment of Resources: Fuel and construction materials will be irretrievably committed to this project. Future funds will be committed to the operation and maintenance of the system.

PUBLIC PARTICIPATION:

1. Public Involvement: The LBVSD held a public meeting on April 11, 2023, at 9:30 a.m. at the Memorial Building in the City of Pleasant Hill, Missouri.
2. Public Opposition or Opinions: The public expressed no adverse opinions to the project.

COORDINATION AND DOCUMENTATION WITH OTHER AGENCIES AND SPECIAL INTEREST GROUPS:

1. Facility Plan: Facility Plan for Middle Big Creek Phase 2 Improvements dated June 8, 2022, including Appendix AA--Big Creek Interceptor Extension Alignment Evaluation dated June 9, 2022.
Prepared By: Burns & McDonnell and HDR Engineering
Environmental Information Document: Submitted June 8, 2023, with supplemental information provided August 8, 2023.
Prepared By: Burns & McDonnell and HDR Engineering
2. Federal:
 - a. U.S. Fish and Wildlife Service
 - b. U.S. Army Corps of Engineers
3. State:
 - a. Missouri DNR – State Historic Preservation Office
 - b. Missouri DNR – Missouri Geological Survey
 - c. Missouri DNR – Division of State Parks
 - d. Missouri Department of Conservation
 - e. Missouri Office of Administration – Federal Assistance Clearinghouse
4. Consulting Engineer: Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114
5. In accordance with the National Historic Preservation Act Section 106, notice was given to all tribes that may attach a religious or cultural significance to historic properties in the region that may be affected by this undertaking.

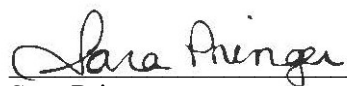
Positive Environmental Effects to be Realized from the Proposed Project: At the Greenwood Pump Station, peak hourly flows have been predicted to exceed the existing capacity in less than five years. By construction the new gravity interceptor, sufficient capacity is predicted for more than 20 years, for reliable conveyance of wastewater to the MBC WWTP.

Reasons for Concluding There Will Be No Significant Impacts: The proposed project will have a positive impact on water quality and will not result in any significant adverse impacts on rare or endangered species, floodplains, wetlands, recreational areas, cultural/archaeological sites, or air quality. Population densities and land use trends will not be significantly affected. Appropriate mitigation measures will be implemented for minor impacts, which are expected to be temporal in nature.

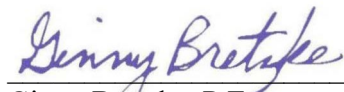
This action is taken on the basis of a careful review of the facility plan and supporting documentation on file in the office of the Missouri Department of Natural Resources' Financial Assistance Center at 1101 Riverside Drive, Jefferson City, MO 65101. These are available for public review upon request Monday-Friday, 8:00 a.m. to 5:00 p.m. This agency will not take any administrative action on this project for at least 30 calendar days from the date of this document. Persons wishing to comment on the above environmental decision may submit comments to Ginny Bretzke, P.E., of the Missouri Department of Natural Resources, Financial Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176, during this period. E-mail comments will be accepted at the following address: DNR.SRFPublicNotice@dnr.mo.gov. Please include the project name and number in all comment letters. Thank you.

Sincerely,

FINANCIAL ASSISTANCE CENTER



Sara Pringer
Director



Ginny Bretzke, P.E.
Project Review Engineer

SP:gbc

Attachments

January 18, 2024

Date

DISTRIBUTION

Missouri Department of Conservation
P.O. Box 180
Jefferson City, MO 65102

Conservation Federation of Missouri
728 West Main Street
Jefferson City, MO 65101

U.S. Environmental Protection Agency
c/o Carter Tharp – WWPD/SRFB
Tharp.carter@epamail.epa.gov

Missouri Department of Natural Resources
Missouri Geological Survey
Environmental Geology Section
P.O. Box 250
Rolla, MO 65402-0250

Missouri Department of Natural Resources
Division of State Parks
State Historic Preservation Office
P.O. Box 176
Jefferson City, MO 65102-0176

U.S. Fish and Wildlife Service
Ecological Services
101 Park DeVille Drive, Suite A
Columbia, MO 65203-0057

National Park Service
Midwest Region
mwro_compliance@nps.gov

USDA Rural Development
601 Business Loop 70 West
235 Parkade Center
Columbia, MO 65203

Council of Environmental Quality
722 Jackson Place, N.W.
Washington, DC 20503

Gilmore and Bell, P.C.
c/o Shannon Walsh Creighton
One Metropolitan Square
211 North Broadway, Suite 2000
St. Louis, MO 63102-2741

SRF File C295439-04

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Missouri Department of Natural Resources
Kansas City Regional Office
200 Unity Circle North, Suite 2A
Lee's Summit, MO 64086

The Examiner
300 North Osage Street, 1st floor
Independence, MO 64050

North Cass Herald
120 Main Street
Belton, MO 64012

Tribune & Times
P.O. Box 275
Harrisonville, MO 64701

Environmental Protection Agency
Office of Federal Activities
Ariel Rios (2252A)
1200 Pennsylvania Avenue, N.W.
Washington, DC 20004

U.S. Army Corps of Engineers
Kansas City District
Kansas City Regulatory Office
601 East 12th Street
Kansas City, MO 64106

Mid-America Regional Council
600 Broadway Boulevard, Suite 200
Kansas City, MO 64105

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